

Remarks

Claims 11-25, 27, 37-38, and 40-56 are pending in the application. Claims 37, 44, and 45 have been amended. New claims 51-56 have been added. No new matter has been added by virtue of this response. Reconsideration of the application is requested.

Allowed claims

Applicant thanks the Examiner for the allowance of claims 11-25 and 27 and for the allowability of claim 44 if rewritten in independent form. Claim 44 has been rewritten in independent form. New claims 51-55 depend from claim 44.

Claim Rejections—35 U.S.C. § 102(b)

The Examiner rejects claims 37, 38, and 40-42 under 35 U.S.C. § 102(b), as being anticipated by Seligson. Claim 37, as amended states:

37. A method of exposing a resist on a substrate comprising the steps of:

- a) providing the substrate with a film of resist;
- b) placing the substrate on a stage;
- c) providing x-ray radiation from a point source;
- d) using an inline collimator or concentrator to collimate or concentrate collimating or concentrating said x-ray radiation;
- e) providing a mask for defining exposure of said resist;
- f) illuminating said mask with said x-ray radiation after said collimating or concentrating step (d); and
- g) exposing said resist with x-ray radiation passing through said mask.

Applicant would respectfully ask the Examiner to consider that Seligson discloses a reflecting collimator, and Seligson does not teach or suggest an inline collimator. It was the present applicants who first considered the idea of applying an inline collimator, previously commonly used for x-ray crystallography, for x-ray lithography and

recognized that they could use the inline collimator for x ray photolithography. Thus, claim 37 is clearly distinguished from the teachings of Seligson, and the rejection of claim 37, and claims depending thereon, under 35 U.S.C. § 102(b), as being anticipated by Seligson has been traversed.

Claim Rejections—35 U.S.C. § 103(a)

The Examiner rejects claims 42, 43 and 45-50 under 35 U.S.C. § 103(a), as being unpatentable over Seligson in view of Hasegawa. The Examiner states that Seligson generally shows all that is claimed except using a displacement sensor sensing the position of the substrate. He states that Hasegawa discloses (FIG. 1-6) an exposure apparatus and method using a displacement sensor 41 to sense the position of the substrate 10 with relation to mask 20, indicating an optimum gap.

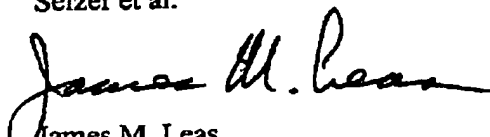
Applicant would respectfully ask the Examiner to consider that the neither Seligson nor Hasegawa, nor the combination teach or suggest collimating or concentrating radiation from a point source using an inline collimator or concentrator. Thus, the references individually and in combination do not teach or suggest an element of independent claim 37 from which claims 42, 43 and 45-50 depend.

Furthermore, with respect to claims 43 and 46-50 applicant would respectfully ask the Examiner to consider that it would not be obvious to use the displacement sensor of Hasegawa in Seligson since Seligson is measuring a minute gap and Seligson has no minute gap. There is nothing equivalent in Seligson's reflection system. Thus, the gap displacement sensor teaching of Hasegawa could not be applied in Seligson to provide for "sensing the position of the substrate with a displacement sensor." Thus, the rejection of claim 37, and claims dependent thereon, including claims 43 and 46-50 has been traversed.

Applicant has reviewed the prior art made of record and not relied upon and believes that it does not teach or suggest the invention as described in the claims.

It is believed that the claims are in condition for allowance. Therefore, applicant respectfully requests favorable reconsideration. If there are any questions please call applicant's attorney at 802 864-1575.

Respectfully submitted,
For: Selzer et al.

By: 
James M. Leas
Registration Number 34,372
Tel: (802) 769-9824

James M. Leas
37 Butler Drive
S. Burlington, Vermont 05403